UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,375	12/21/2000	Thomas Boehme	DE9-1999-0085 (590.027)	5538

35195 7590 02/10/2005

FERENCE & ASSOCIATES
400 BROAD STREET
PITTSBURGH, PA 15143

EXAMINER	
HARPER, V PAUL	
ART UNIT	**PAPER NUMBER**
2654	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/749,375	BOEHME, THOMAS	
	Examiner	Art Unit	
	V. Paul Harper	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *14 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-13* is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☒ Claim(s) *9,10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The amendment to claim 13 is acceptable, and the previous rejection is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Gadd ("PHONIX: The Algorithm" *Program*, October 1990).

Regarding claim 1, Gadd teaches an algorithm for phonetic retrieval of names (p. 363, §1). Gadd also teaches **"a method for coding phonetic information, the method comprising the steps of: identify phonetic features of a character sequence; and representing the identified phonetic features as a bit string"** which corresponds to performing phonetic substitutions on names and representing them with codes (pp. 365-366, §5).

Regarding claim 2, Gadd teaches everything claimed, as applied above (see claim 1). In addition, Gadd teaches **"wherein the character sequence is a name"** (§5, p. 365, ¶1, performs character substitutions within personal names).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadd in view of Pfeifer et al. ("Retrieval Effectiveness of Proper Name Search Methods," Information Processing and Management, 1996), hereinafter referred to as Pfeifer and further in view of well know prior art (MPEP 2144.03).

Regarding claim 3, Gadd teaches everything claimed, as applied above (see claim 1), but Gadd does not specifically teach **"the bit string has a length of 32 bits."** However, the examiner contends that this concept was well known in the art, as taught by Pfeifer.

In the same field of endeavor, Pfeifer evaluates proper name search methods including an evaluation of the Phonix4 algorithm with a code length of four characters (§5,3 "Analysis").

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gadd by specifically providing a four

character Phonix code, as taught by Pfeifer, since this is a standard variant of the Phonix algorithm.

Furthermore, Gadd in view of Pfeifer do not specifically teach a code length of 32 bits. However, the examiner takes official notice of the fact that the standard representation of an ASCII character as 8 bits was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gadd in view of Pfeifer such that an 8 bit ASCII code was use, since this is a standard length.

Thus the code length taught by Gadd in view of Pfeifer and well known prior art is 32 bits (4 ASCII characters X 8 bits/char).

Regarding claim 4, Gadd in view of Pfeifer and well-known prior art teach everything claimed, as applied above (see claim 3). In addition, Gadd teaches **"the step of replacing at least one group of characters in the character sequence, with a corresponding number of normalized character groups having the same or a similar sound when spoken but a different spelling"** (§5, "The PHONIX algorithm", in particular step a)).

Regarding claim 5, Gadd in view of Pfeifer and well-known prior art teach everything claimed, as applied above (see claim 4). In addition, Gadd teaches **"covering the beginning portion of the character sequence with a first normalized character group; covering the middle portion of the character sequence with one or more of said normalized character groups; and covering the end portion of the**

character sequence with one of said normalized character groups" (p. 367, table of phonetic substitutions for the start, middle and end of a word).

Regarding claim 6, Gadd in view of Pfeifer and well-known prior art teach everything claimed, as applied above (see claim 5). In addition, Gadd teaches **"the step of extracting said normalized character groups from particular tables providing a mapping between the character sequence groups and said normalized character groups by a respective provision of a cross-reference in said table"** (p. 365, step a) "perform substitutions" with the tables given on pp. 367-369).

Regarding claim 7, Gadd in view of Pfeifer and well-known prior art teach everything claimed, as applied above (see claim 6). In addition, Gadd teaches **". . . said tables comprising groups of the character sequences"**, which corresponds to the tables given on pp. 367-369, but Gadd in view of Pfeifer and well-known prior art do not specifically teach **"the step of empirically founding said tables . . . ."** However, the examiner contends that this concept was well known in the art, as taught by Pfeifer.

Pfeifer further teaches that algorithms have been *developed* for other languages and that this includes adapting character classes or substitution rules where this development would necessarily require an empirical technique (§2, ¶'s 1-3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gadd in view of Pfeifer and well-known prior art by empirically developing the character substitution rules, as taught by Pfeifer, since this is the common (and most likely only way) to develop these tables.

Regarding claim 8, Gadd in view of Pfeifer and well-known prior art teach everything claimed, as applied above (see claim 7). But Gadd in view of Pfeifer and well-known prior art do not specifically teach **". . . reflect the [language] specific phonetics."** However, the examiner contends that this concept was well known in the art, as taught by Pfeifer.

Pfeifer further teaches that the substitution rules can be developed to represent the phonetics of different languages (§2, ¶'s 1-3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gadd in view of Pfeifer and well-known prior art by specifically providing the language support, as taught by Pfeifer, since this capability will improve performance in a given language.

However, Gadd in view of Pfeifer and well-known prior art do not specifically teach **"the step of spelling actual language in use reflect the specific phonetics."** However, the examiner takes official notice of the fact that a means of selectively alternating between known elements (including spelling the name of the alternative) was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gadd in view of Pfeifer and well-known prior art such that the language in use could be selected, since appropriate language-specific codes and substitution rules improve results.

Response to Arguments

4. Applicant asserts beginning on page 9:

> *The instantly claimed invention requires specifically "representing the identified phonetic features as a bit string". (Claim 1) Similar language appears in the other independent claims. Thus in the present invention the identified phonetic features as a whole are represented by a bit string.* Doing so permits the [sic] of a binary comparison operator in a computer system to compare two bit strings (or binary strings). Thus, in accordance with the presently claimed invention a "match" of the phonetic features represented by two bit strings is accomplished with one comparison. As discussed in the specification, "[b]y representing the phonetic information as a sequence of bits, i.e.. a binary value, the performance of a database search is significantly increased **as binary values can be compared much faster than character strings**." (Italics added)

The examiner maintains that the term "bit string" is commonly understood to mean an "ordered sequence of bits" (see Dictionary.com), and that this definition encompasses the concept of a character sequence as taught by Gadd (i.e. the code for a character sequence has an underlying representation of an ordered sequence of bits).

5. Applicant further asserts on page 9:

> The combination of Gadd and Pfiefer et al. do not overcome the deficiencies of Gadd set forth above. There is absolutely no teaching or suggestion in Pfiefer that would lead one of ordinary skill in the art to modify Gadd to arrive at the present invention. A 35 U.S.C. 103(a) rejection is therefore improper.

In the rejection of claim 3, it is stated that the invention of Pfeifer et al. is a variant (i.e., a specific implementation) of the Phonix algorithm (described by Gadd), thus the Examiner maintains that the modification of Gadd in view of Pfeifer is proper.

Allowable Subject Matter

6. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. It is noted that the closest prior art of record, Gadd ("PHONIX: The Algorithm" Program, October 1990) teaches the coding of phonetic information, but does not teach the decreasing of coding precision from the beginning of the character sequence.

7. Claims 11, 12 and 13 are allowed.

It is noted that the closest prior art of record, Gadd ("PHONIX: The Algorithm" Program, October 1990) teaches the coding of phonetic information in a code, but does not teach the decreasing of coding precision from the beginning of the character sequence. Thus, independent claims 11 and 13 are allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. V. Paul Harper whose telephone number is 703 305-4197. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 703 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

1/28/2005

V. Paul Harper
Examiner
Art Unit 2654

V. Paul Harper

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER